AMENDMENTS TO THE CLAIMS, COMPLETE LISTING OF CLAIMS IN ASCENDING ORDER WITH STATUS INDICATOR

Please amend the following claims as indicated.

1. (Currently Amended) A method for processing a brittle material, said method comprising:

irradiating a light onto a plate-shaped sample with a plurality of wavelengths,

calculating an absorptance of the plate-shaped sample based on a set value of absorptance and a thickness of the plate-shaped sample,

selecting an optimum wavelength of light for the absorptance of a brittle material to be processed based on the calculated value of absorptance, and actual absorptance data obtained from the irradiation of light onto the plate-shaped sample,

irradiating a light having the optimum wavelength from a light source serving as a heating source onto the brittle material and moving an irradiation position of the light along a predetermined line,

wherein an absorptance of the light irradiated onto the brittle material is set in advance,

wherein the plate-shaped sample is made of a same material as the brittle material, and

wherein the optimum wavelength of light permits a region of an internal material portion of the brittle material and the surface vicinity of the brittle material to become an absorbing region by the irradiation of the light onto the brittle material,

wherein the optimum wavelength of light allows for the generation of an uniform heating band in the thickness direction and the formation of cracks deep in the internal portion of the brittle material.

2. (Previously Presented) The method for processing brittle material according to claim 1,

wherein the plate-shaped sample is irradiated in sequence by a plurality of light sources with mutually different wavelengths,

wherein the actual absorptance data of the plate-shaped sample is calculated from a measured value of transmitted light intensity at each wavelength, and

wherein the optimum wavelength of the light is selected using this actual data.

3. (Original) The method for processing brittle material according to claim 1 or claim 2,

wherein a reflective layer is formed on a rear side of a light irradiating position of the processed brittle material.

4. (Original) The method for processing brittle material according to claim 1 or claim 2,

wherein when the brittle material is placed on a table and processed, a reflective layer of that table on which the material is placed is formed on a surface.

5. (Withdrawn) An apparatus for processing brittle material by irradiating light from a light source serving as a heating source onto the brittle material and moving an irradiation position of the light along a predetermined line, comprising;

a plurality of light sources emitting mutually different wavelengths of light,

a scanning means for transporting these light sources relative to the brittle material,

an absorptance calculating means for calculating, using a set value of absorptance set in advance and a thickness of a sample, an absorptance of the sample when irradiated by a light of the same wavelength as that irradiated on the brittle material,

a light intensity measuring means for measuring intensity of transmitted light when the sample is irradiated by light from each light source,

an actual data calculating means for calculating actual absorptance data of the sample from the measured value of the transmitted light intensity at each wavelength as measured by the light intensity measuring means, and

a selecting means for selecting a wavelength of light that is appropriate for the absorptance of the brittle material to be processed based on the actual absorptance data and the calculated results of absorptance, and

wherein a light source emitting light of this selected light source is selected from the plurality of light sources to process the brittle material.

6. (Currently Amended) The method for processing brittle material according to claim 1 or claim 2, wherein the optimum wavelength ~~can be~~ is selected by a process of (A) finding ~~from the~~ actual absorptance data which shows values matching or values close to the absorptance A calculated from the ~~and~~ following equations

(1) $\frac{I_0 - I}{I_0} = \frac{A}{100}$, $I = I_0 \exp(-\alpha d)$

(2) $\frac{I}{I_0} = \frac{100 - A}{100} = \exp(-\alpha d)$

(3) $\left(\frac{100 - A}{100}\right)^{1/d} = \exp(-\alpha)$

(4) $(100 - A) / 100 = (B / 100)^{d/D}$

$100 - A = 100 (B / 100)^{d/D}$

$= (100)^{D/d} (100)^{d/D} (B/100)^{d/D}$

$= (100)^{D/d} B^{d/D}$

(5) $\therefore A = 100 - (100)^{D/d} B^{d/D}$.

wherein *I* is the light intensity, A is absorbance, d is thickness of said plate-shaped sample, D is thickness of said brittle material, and B is transmittance of emitted light, and (B) selecting a light source with a wavelength close to the absorptance A.